• Medullary and papillary carcinoma of the thyroid gland occurring as a collision tumour: a case report

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OBJECTIVES

Simultaneous occurence of medullary thyroid carcinoma (MTC) and papillary thyroid carcinoma (PTC) in a single patient is a rare event..

Medullary thyroid carcinoma (MTC) is a relatively uncommon tumour of the thyroid as compared with papillary thyroid carcinoma (PTC). The former arises from parafollicular calcitonin (CT)-producing cells and accounts for 5–10% of all thyroid malignancies while the latter originates from thyroglobulin (TG)-producing follicular cells and represents up to 90% of the cases. These reported cases displayed well separated MTC and multifocal PTC.

CASE REPORT

A 49 year-old male patient was referred to endocrinology for multinodular goiter evaluation. He had no palpable nodules. There was no apparent family history of endocrine disorders or external radiation therapy. The thyroid ultrasound showed an isoechoic nodüle 9 mm in size, in the left lobe and two hypoechoic nodes on the right lobe 4.4 and 7 mm in size, with accompanying rough calcification..The patient was euthyroid, serum calcium level and antithyroid autoantibodies were normal. Fine needle aspirations cytology demonstrated a suspicious for PTC. The patient underwent total thyroidectomy. The histology and immunohistochemistry showed multifocal papillary microcarcinoma (5mm- in the right lobe / 7mm in the left lobe) and medullary microcarcinoma (3 mm-in the right lobe). Postoperatively calcitonin level < 0.2 pg/ml, and thyroglobulin level <0.1 ng/ml. Radioiodine treatment was not performed. Urinary metanephrines were negative. Point mutation for RET gene was found to be negative.

CONCLUSIONS

The simultaneous occurrence of MTC and DTC in the same thyroid gland can be observed in two main settings: a mixed tumor showing dual differentiation or a collision tumor showing two separate different carcinomas. The latter category nodules with MTC and PTC were detected distinct locations, seperated by normal thyroid area. The mean pathogenesis of these tumors controversial. The collision theory suggesting that two independent tumors are located in the same gland by coincidental. Other possible explanations for these tumors the presence of RET protooncogene mutation in both type thyroid cells. Our case MTC was located in the right lobe and PTC in both lobes as multifocal. Recent studies and our case suggested that MTC and PTC are usually coincidental and independent events. These carcinomas are rare and difficult to diagnese preoperatively by fine-needle biopsy. Therefore endocrinologist and pathologist should to be alert these condition.

References

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